

Remarks

Claims 1 and 6 are amended to set forth an embodiment of the present invention wherein the composition contains a mixture of different silica gels. Support for this amendment may be found, at least, on pages 6 and 7, paragraphs 19-25, of the subject specification. Claim 5 is amended to correct a typographical error. Claim 10 is canceled. Claims 1-9 and 11-17 are pending in the subject application, with claims 13-17 being withdrawn to a non-elected embodiment (i.e., a process for making an abrasive silica).

On page 2 of the Office Action, it is indicated that claims 1-9, 11 and 12, "which do not recite or require any second silica abrasive" are withdrawn. However, the present amendment to claims 1 and 6 recite a second silica abrasive, and thus, claims 1-9, 11 and 12 remain part of the elected embodiment. Accordingly, Applicants respectfully request examination of claims 1-9, 11 and 12.

Claim 10 stands rejected under 35 U.S.C. §102 (e) over U.S. Patent No. 6,290,933 to Durga et al. (hereinafter Durga et al.). This rejection is respectfully traversed.

Durga et al. describes a silica dentifrices composition that may include two abrasives (Col. 4, lines 26-40). The first abrasive is silica gel, while the second abrasive may be precipitated silica.

The presently amended claims recite that the abrasive composition include different types of silica gels that are prepared by washing the gels at different temperatures. There is no mention in Durga et al. of using two different silica gels. Durga et al. is completely silent regarding the use of two different silica gels. Accordingly, all of the elements recited in the present claims 1-9, 11 and 12 are not set forth in Durga et al. Applicants respectfully request withdrawal of the rejection.

Moreover, there is no motivation or suggestion set forth in Durga et al., or otherwise set forth in the Office Action, for the Artisan to have modified the teachings of Durga et al. and arrive at these present claims, i.e., there is no suggestion to utilize two different silica gels that are washed at different temperatures. Durga only suggests using other abrasives, such as precipitated silicas, in the dentifrice


compositions set forth therein. Thus, claims 1-9, 11 and 12 would not have been obvious over Durga et al.

The present invention also provides unexpected results with regard to cleaning performance in dentifrice compositions. For example, on page 11 of the subject specification, dentifrice composition B provides unexpectedly improved PCR, RDA, and Einlehner abrasion properties that are much improved over commercially available silica gel and precipitated silica abrasives, including combinations of these materials (see composition C). Accordingly, these unexpectedly improved results would rebut any *prima facie* case of obviousness that may be presented under Durga et al.

On pages 4-6 of the Office Action, reference is made to U.S. Patent No. 5,939,051 to Santalucia et al. (hereinafter Santalucia et al.). Since Santalucia et al. is not included in any rejection set forth in the Office Action, Applicants assert that it is not necessary to respond to the comments regarding this document. However, for the identical reasons set forth above with respect to Durga et al., i.e., there is no suggestion or motivation to use different silica gel particles in abrasive compositions that are formed by using different wash temperatures, this document does not anticipate or render obvious claims 1-9, 11 and 12.

In view of the above amendments and remarks, Applicants respectfully submit that the above-identified application is now in condition for allowance. Applicants respectfully request notification to that effect in the form of a Notice of Allowability.

Respectfully yours,



William D. Bunch
Attorney for Applicants
Registration No. 35,027

Dated : March 24, 2004
Tel: (410) 531-4333
W. R. Grace & Co.-Conn.
7500 Grace Drive
Columbia, Maryland 21044-4098



APPENDIX 1

What is Claimed:

Claim 1 (Currently Amended) An amorphous silica gel composition comprising particulate having:

- (a) a median particle size in the range of about 5 to 12;
- (b) bronze screen Einlehner hardness of about 0.1 to 3;
- (c) total volatiles content of about 20 to about 40% by weight based on the weight of silica; and
- (d) a pH of about 3.0 to 6.0;

wherein said particulate comprises a mixture of a first silica gel washed at a first temperature and a second silica gel washed at a second temperature different from said first temperature.

Claim 2 (Original) The composition of claim 1 wherein (a) is in the range of about 7 to 10.

Claim 3 (Original) The composition of claim 1 wherein (b) is in the range of about 0.5 to about 2.0.

Claim 4 (original) The composition of claim 1 wherein (c) is about 25 to 35%.

Claim 5 (Currently Amended) The composition of claim 1 wherein the particulate consists essentially of silica gel.

Claim 6 (Currently Amended) A dentifrice composition comprising 0.1 to 99% orally-acceptable carrier and amorphous silica gel abrasive,

- (1) the abrasive having a:
 - (a) a median particle size in the range of about 5 to 12 microns;
 - (b) bronze screen Einlehner hardness of about 0.1 to 3;

- (c) total volatiles content of about 20 to about 40% by weight based on the weight of silica; and
- (d) a pH of about 3.0 to 6.0; and

(2) the dentifrice composition having a Pellicle Cleaning Ratio of at least 80;
and

wherein said abrasive comprises a mixture of a first silica gel washed at a first temperature and a second silica gel washed at a second temperature different from said first temperature.

Claim 7 (Original) The dentifrice composition of claim 6 wherein the abrasive (1) consists essentially of silica gel.

Claim 8 (Original) The dentifrice composition of claim 6 wherein (c) is in the range of about 25 to about 35.

Claim 9 (Original) The dentifrice composition of claim 6 wherein (a) is in the range of 7 to about 10 microns.

Claim 10 (Canceled).

Claim 11 (Original) The dentifrice composition of claim 6 wherein the dentifrice has a PCR of at least 100.

Claim 12 (Original) The dentifrice composition of claim 6 wherein the silica abrasive comprises about 10 to about 25% of the composition's total weight.

Claim 13 (Original) A process for making an abrasive silica composition comprising:

- (a) preparing a first silica gel and washing it at a temperature of no more than 130°F for at least five hours;
- (b) preparing a second silica gel and washing it at a temperature of at least 110°F for at least eight hours;

- (c) milling and drying the gels of (a) and (b); and
- (d) optionally adding alkaline compound as necessary to the gels of (a) and (b) in order to obtain a pH of in the range of 3 to 6 after the gels of (a) and (b) have been combined, wherein the pH is measured in an aqueous solution containing 5% by weight gel.

Claim 14 (Original) The process of claim 13 wherein step (c) comprises milling and drying gels of (a) and (b) separately before the gels of (a) and (b) are combined.

Claim 15 (Original) The process of claim 14 wherein the gel of (a) is milled to a median particle size in the range of 6 - 10 microns and the gel of (b) is milled to a median particle size of in the range of 8 - 12 microns.

Claim 16 (Original) The process of claim 13 wherein the gels of (a) and (b) are dried in (c) to contain a volatiles content in the range of 20-40% by weight based on the gel.

Claim 17 (Original) The process of claim 13 wherein the alkaline compound is sodium bicarbonate.